

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A shielding gas for use in the arc welding of metallic work pieces, comprising:

argon, carbon dioxide, between about 4.5% and about 15% by volume of nitrogen, and substantially no helium; or

argon, carbon dioxide, helium, and between about 3% and about 15% by volume of nitrogen.

2. (Original) The shielding gas of claim 1, wherein the shielding gas comprises argon, carbon dioxide, between about 5% and about 14% by volume of nitrogen, and substantially no helium; or argon, carbon dioxide, helium, and between about 4% and 14% by volume of nitrogen.

3. (Original) The shielding gas of claim 1, wherein the shielding gas comprises argon, carbon dioxide, helium, and between about 4.5% and 15% by volume of nitrogen.

4. (Original) The shielding gas of claim 3, wherein the shielding gas comprises argon, carbon dioxide, helium, and between about 5% and 14% by volume of nitrogen.
5. (Original) The shielding gas of claim 1, wherein the shielding gas comprises between about 5% and about 12% by volume of nitrogen.
6. (Original) The shielding gas of claim 5, wherein the shielding gas comprises between about 5% and about 10% by volume of nitrogen.
7. (Original) The shielding gas of claim 5, wherein the shielding gas comprises between about 6% and about 9% by volume of nitrogen.
8. (Original) The shielding gas of claim 1, wherein the shielding gas comprises between about 0.001% and about 5% by volume of carbon dioxide.
9. (Original) The shielding gas of claim 8, wherein the shielding gas comprises between about 0.005% and about 2% by volume of carbon dioxide.
10. (Original) The shielding gas of claim 8, wherein the shielding gas comprises between about 0.01% and about 1% by volume of carbon dioxide.

11. (Original) The shielding gas of claim 8, wherein the shielding gas comprises between about 0.1% and about 0.75% by volume of carbon dioxide.
12. (Original) The shielding gas of claim 1, wherein the shielding gas comprises about 70% or less by volume of helium.
13. (Original) The shielding gas of claim 1, wherein the shielding gas comprises between about 1% and about 50% by volume of helium.
14. (Original) The shielding gas of claim 13, wherein the shielding gas comprises between about 2% and about 30% by volume of helium.
15. (Original) The shielding gas of claim 13, wherein the shielding gas comprises between about 3% and about 20% by volume of helium.
16. (Original) The shielding gas of claim 13, wherein the shielding gas comprises between about 5% and about 10% by volume of helium.
17. (Original) A shielding gas for use in the arc welding metallic work pieces, consisting essentially of:

 argon, carbon dioxide, between about 4.5% and about 15% by volume of nitrogen, and substantially no helium; or

argon, carbon dioxide, helium, and between about 3% and about 15% by volume of nitrogen.

18. (Original) The shielding gas of claim 17, wherein the shielding gas consists essentially of between about 0.001% and about 5% by volume of carbon dioxide.

19. (Original) The shielding gas of claim 17, wherein the shielding gas consists essentially of about 70% or less by volume of helium.

20 – 39. (Canceled)